

1. Did anyone at Ecology find any of the answers from WRPS in the Oct. 17<sup>th</sup> email exchange you provided me problematic? If so, which one(s)?

No, Ecology did not find any of the answers from WRPS in the 10/17/2011 email exchange problematic. All responses were factual and displayed that WRPS appropriately generated the needed field planning documents quickly to trouble-shoot, recalibrate, and put back into service the annulus ENRAF.

They had radiological monitoring in place as they brought the ENRAF up to visually inspect it. And should waste material have been present at that time, the radiological readings would have been much higher, as indicated in their response. Also, WRPS not only recalibrated the ENRAF, but also added more insulation spray foam and tape to suspect areas where the intrusion may have entered the tank.

2. If the answers, or some of them, seemed problematic, does Ecology have any authority to force the contractor to do further testing or to better explain their assumptions?

Yes. As an example, tank A-350 is a catch tank in A-farm (a single-shell tank farm) that tended to fill up from intrusion and require periodic pumping. The intrusion was adding to the overall volume of tank waste. Under WAC 173-303-640, Ecology asked WRPS and ORP to evaluate and mitigate the intrusion. It took close to 6 months before they determined the intrusion path, but the mitigation effort followed quickly. Ecology continues to ask about that SST catch tank every 6 months or so.

3. Can you please direct me to any RCW, WAC, regulation, portion of the Tri-Party Agreement or other record that would explain that kind of authority or lack thereof?

The Washington Administrative Code (WAC) contains the requirements for tank systems. Because this unit is not currently in the Hanford Dangerous Waste permit, it falls under WAC 173-303-400, which points to 40CFR265 requirements. Please note, these requirements are basically identical to the WAC requirements, and WAC 173-303-640 will replace 40CFR265 when Rev 9 of the state's permit is issued.

Ecology's authority to require action from the U.S. Department of Energy and the contractor for leaking tanks is based on:

- 40CFR265.193(b)(2) states that: Secondary containment systems must be: Capable of detecting and collecting releases and accumulated liquids until the collected material is removed.
- 40CFR265.193(c) further states that: To meet the requirements of (b) of this subsection, secondary containment systems must be at a minimum: Provided with a leak-detection system that is designed and operated so that it will detect the failure of either the primary or secondary containment structure or the presence of any release of dangerous waste or accumulated liquid in the secondary containment system within twenty-four hours, or at the earliest practicable time if the owner or operator can demonstrate to the department that

existing detection technologies or site conditions will not allow detection of a release within twenty-four hours.

- 40CFR265.193(e) states: In addition to the requirements of (b)(c), and (d) of this subsection, secondary containment systems must satisfy the following requirements: Designed or operated to prevent run-on or infiltration of precipitation into the secondary containment system unless the collection system has sufficient excess capacity to contain run-on or infiltration. Such additional capacity must be sufficient to contain precipitation from a twenty-five-year, twenty-four-hour rainfall event.

So piecing these regulations together, we can ask USDOE-ORP and WRPS to demonstrate how they meet these requirements for monitoring/detection, maintaining the operational status of their monitoring/detection capabilities, and if they can (depending on the tank size and contents and thus available tank space and annulus space), have enough space for a 25-yr/24-hr storm event.

Additionally, Ecology previously enforced on compliance problems related to leak detection resulting in the SY Settlement Agreement (USDOE vs WA, PCHB No. 98-249; No 98-250). This Settlement also makes it very clear that ENRAFs are the primary method of leak detection to be used for the DSTs. It includes requirements for how they are placed, how they operate and when Ecology must receive notification of alarms.

4. Can you please direct me to the portion of the Tri-Party Agreement (or other document) that explains Ecology's overall role and responsibility in oversight at Hanford?

- WAC 173-303-400
- 40CFR265.193-196
- "SY Settlement Agreement" (USDOE vs WA, PCHB No. 98-249; No 98-250)
- Hanford Dangerous Waste Permit, Revision 8C

5. Also, did DOE or WRPS provide Ecology with any other reports of what was going on with the AY 102 annulus and additional signs of it leaking from the primary tank prior to August of 2012 other than what you have already provided to me?

No reports of the tank leaking were provided prior to October 31, 2012, when the Tank 241-AY-102 Leak Assessment Report, RPP-ASMT-53793 was released. Ecology was provided notification that anomalies were found during an August 2012 visual inspection. Ecology received notification and briefings that the formal Leak Assessment Process was being implemented and samples were collected and sent to the lab for analysis in September and October.

Ecology received frequent status reports (usually a phone call) during the assessment. Only ENRAF calibration, maintenance, and repair notifications were received by Ecology prior to August 2012. ENRAF calibration, maintenance, and repair notifications are received routinely by Ecology for the annular and primary tank ENRAFs for the other DSTs.

6. If no additional documentation was provided, should they have? For example, if they were to get higher (unexpected) radiation readings from equipment in the annulus, should that have been reported to Ecology?

Ecology does not have authority or jurisdiction over radiological constituents. However, if these constituents are mixed with spent hazardous chemicals (dangerous waste), then the waste is subject to the requirements of WAC 173-303-640 and Air Quality requirements.

The Washington State Department of Health (DOH) regulates radiological emissions. If unexpected radiation readings in the airspace are detected, they are required to be provided to DOH.

During the leak assessment process, USDOE did share with Ecology the fact that the Continuous Air Monitors (CAMs) associated with the annulus exhaust did not alarm until samples were taken of the materials on the annulus floor.